

## Physics 1, Grade 9

### Overview

The author of this Student Growth Objective teaches 9<sup>th</sup> grade, Physics I in a traditional public school.

**Strengths:** a) The teacher has used a **variety of measures** to determine student starting points. This approach included information on markers of future success. This information allows the teacher to group students by preparedness level and create a set of targets that are ambitious and achievable for each group. b) Using a **district-created summative assessment** allows for cross-grading, thereby increasing the quality of the scores. This also enables greater collaboration across colleagues.

**Suggestions:** a) Explicitly stating the standards that will be covered in the course will provide a clearer picture of student learning. This will also allow for easier cross-checking to ensure the assessment captures all of the intended standards. b) Providing more rationale for the standards chosen would enable stronger conversations with administrators and peers and ensure important standards are not missed.

Name	School	Grade	Course/Subject	Number of Students	Interval of Instruction
		9	Physics 1	65/65	October - April
<p>The teacher clearly states her intent to capture a significant portion of the course instructional period in this SGO. This SGO includes all of her students.</p> <p><b>Suggestion:</b> The teacher might want to include the specific dates for the instructional period covered.</p>					
<p><b>Standards, Rationale, and Assessment Method</b></p> <p>Name the content standards covered, state the rationale for how these standards are critical for the next level of the subject, other academic disciplines, and/or life/college/career. Name and briefly describe the format of the assessment method.</p>					
<p><b>Standards:</b> This SGO covers all of my students, all of the physical science content standards and all four science practice standards:            NJCCCS physical science 5.2.12 C-E (energy, energy transformation, force and motion)            NJCCCS science practices 5.1.12 A-D (scientific explanations, investigation, reflection, and participation)</p> <p><b>Rationale:</b> This SGO includes all of the NJCCCS related to physics creating a foundation important for students who will take AP and/or college-level physics and is fundamental to many careers including architecture, mechanics, engineering, medicine. The SGO also includes all of the science practice standards, standards crucial in helping student become scientific thinkers. This mindset is valuable for making decisions when a large amount of information is available and must be analyzed for value and accuracy. It is critical in most academic disciplines.</p> <p><b>Assessment:</b> District-created Physics 1 final assessment</p> <p><b>Written:</b> 60 multiple choice (4 choice), 5 short response questions</p> <p><b>Practical:</b> students design a simple apparatus, take measurement and collect data</p>					
<p><b>Standards and Rationale:</b> The teacher states that the SGO will cover all of the physical science standards and all science practice standards, thereby representing a significant portion of the teacher's work throughout the year. She includes clear rationale for choosing these standards and explains how they are important to student success.</p> <p><b>Assessment:</b> The teacher clearly explains the assessment method that will be used at the end of the SGO period. Using a district-created summative assessment allows for cross-grading, thereby increasing score quality.</p> <p><b>Suggestions:</b> a) The teacher might consider listing the standards covered in this section and adding some rationale for why the selected standards are critical for student success in the course and other science courses. b) Attaching a copy of the assessment rubrics (for short response items and practical) and an assessment blueprint to this form will be useful for the teacher and her administrator when they sit down to discuss the SGO before the submission deadline.</p>					

**Starting Points and Preparedness Groupings**

State the type of information being used to determine starting points and summarize scores for each type by group. Add or subtract columns and rows as needed to match number of preparedness groups and types of Information used.

Preparedness Group	Information #1	Information #2	Information #3
	Diagnostic Assessment Scores	Grade 8 NJASK Math Scores	Markers of Future Success
Low	35-49% (36 students)	180-210	9 – 12
Medium	50-66% (21 students)	211-260	5 – 8
High	67-80% (8 students)	261-290	0 – 4

*The teacher has used three different data points including NJASK Math scores from the previous year, results on course pre-assessment and future markers of success, which includes attendance, class participation, and home work completion. This provides a detailed picture of how well prepared her students are for learning in her class in terms of content knowledge and skills.*

**Suggestions:** a) The teacher may want to describe how she groups a student who falls into multiple categories. For example, where students could be placed in two or more preparedness groups, diagnostic assessment scores has most weight. b) The teacher should provide more context on the pre-assessment used at the beginning of the year. For instance, does the pre-assessment measure course prerequisite skills, mathematics standards from previous grade levels, etc.?

**Student Growth Objective**

State simply what percentage of students in each preparedness group will meet what target in the space below, e.g. “75% of students in each group will meet the target score.” Describe how the targets reflect ambitious and achievable scores for these students. Use the table to provide more detail for each group. Add or delete group rows as needed.

85% of my students in each preparedness group will achieve their target score on the final Physics I Assessment.

Preparedness Group (e.g. Low, Medium, High)	Number of Students in Each Group	Target Score on SGO Assessment
Low	36	70%
Medium	21	80%
High	8	90%

*The teacher clearly states how many students will accomplish what by when. She recognizes that students start the year at different levels and looks to set reasonable targets for all students using a differentiated approach.*

**Scoring Plan**

State the projected scores for each group and what percentage of students will meet this target at each attainment level.

Preparedness Group	Student Target Score	Teacher SGO Score Based on Percent of Students Achieving Target Score			
		Exceptional (4)	Full (3)	Partial (2)	Insufficient (1)
Low	70	>90% students (31-36)	≥85% students (25-30)	≥70% students (18-24)	<69% students (0-17)
Medium	80	>90% students (19-21)	≥85% students (15-18)	≥70% students (11-14)	<69% students (0-10)
High	90	>90% students (8)	≥85% students (6-7)	≥70% students (4-5)	<69% students (0-3)

*The scoring plan is clear, logical, and aligns with the SGO statement and other information on this form. The teacher is using percentages of students that will attain a particular target to differentiated levels of success on the SGO. This will simplify calculations for an SGO score if students enter or leave her class through the year.*

**Approval of Student Growth Objective**

Administrator approves scoring plan and assessment used to measure student learning.

Teacher \_\_\_\_\_ Signature \_\_\_\_\_

Date Submitted \_\_\_\_\_

Evaluator \_\_\_\_\_ Signature \_\_\_\_\_

Date Approved \_\_\_\_\_

**Results of Student Growth Objective**

Summarize results using weighted average as appropriate. Delete and add columns and rows as needed.

Preparedness Group	% Students at Target Score	Teacher SGO Score	Weight (based on students per group)	Weighted Score	Total Teacher SGO Score

**Notes**

Describe any changes made to SGO after initial approval, e.g. because of changes in student population, other unforeseen circumstances, etc.

**Review SGO at Annual Conference**

Describe successes and challenges, lessons learned from SGO about teaching and student learning, and steps to improve SGOs for next year.

Teacher \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

Date \_\_\_\_\_

Evaluator \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_

Date \_\_\_\_\_